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TREATMENT OF FRACTURE OF THE PATELLA.

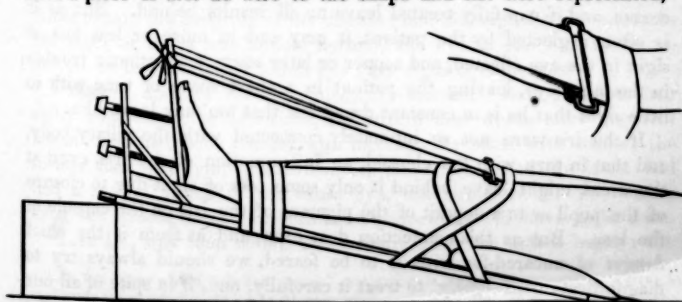
BY J. F. GALLOWAY, M. D., LYNN.

ALL who have had much experience in the treatment of transverse fracture of the patella must have found the different methods recommended in the text-books inefficient and unsatisfactory to both surgeon and patient. Having treated a considerable number of cases by the most approved appliances with no better results than those obtained by "position" alone, I had concluded to relieve my patients of the annoyance of straps, bandages, and the like, and myself of the trouble of applying them, and to trust to simple treatment by position.

Upon hearing good reports of the method recommended by Dr. Sanborn, of Lowell, I gave it a trial, but found that the twisted plaster over the patella caused pain and excoriation of the skin; that the plaster was drawn into a string for some distance above and below the patella, and that the skin was dragged into a great fold, while the fragments were but little if at all acted upon. To obviate these objections



I modified the appliance as described below: a tinsmith was employed to bend a piece of No. 18 wire to the shape and size here represented,



and to surround one side with a tin roller like that of a common harness buckle; to this was sewed one end of a strip of plaster two and

one half inches wide and about a foot long; the plaster was then applied to the thigh, with the wire exactly over the upper extremity of the upper fragment. A similar strip of plaster was applied to the leg below the lower fragment, to which a strip of strong cotton cloth, about a yard long, had been sewed; a strip of plaster around the limb and splint, above and below the patella, served to secure the limb to the splint and to hold the ends of the other plasters down against the broken bone. The end of the cloth being passed around the pulley and drawn upon, the fragments were held together with the greatest ease and with comfort to the patient. The end of the strip of cloth was then split in two and tied around the end of the foot piece of the splint in a bow-knot. This was quite as efficient as a weight would be, and much more convenient. The smooth cloth, passing over the broken bone, caused no pain and prevented tilting; the circulation was not interfered with, and easy control over the fragments was maintained.

I have now treated three cases in this way, with excellent results and with comfort to the patients. It is important that the plaster should be of good quality. I have used that of all the different manufacturers in the market, including the English and also the "rubber adhesive plaster" (which is the poorest of all), but give the preference to that made by Shriver, of Philadelphia.

IRITIS.¹

BY JAMES A. SPALDING, M. D. HARV.

INFLAMMATION of the iris, not due to wounds of the eye, nor as a result of operations on the eye, is by no means rare. It may occur suddenly, in the seemingly most healthy person, run a varying rapid course, and if carefully treated leave no ill results behind. But as it is often neglected by the patient, it may end in more or less loss of sight in the eye affected, and sooner or later starts sympathetic trouble in the other eye, leaving the patient in a short space of time with so little sight that he is in constant dread lest that too may leave him.

If the iris were not so intimately connected with the ciliary body, and that in turn with the choroid, an inflammation of the iris, even at the worst, might leave behind it only some loss of sight due to closure of the pupil or to a deposit of the pigment of the iris on the capsule of the lens. But as this connection does exist, and as from it the chief danger of uncared-for iritis is to be feared, we should always try to diagnosticate iritis rightly, to treat it carefully, and, if in spite of all our care the case ends in loss of sight to whatever degree, to warn the patient that an eye once so inflamed, even if now seemingly healthy,

¹ Read before the Cumberland County (Me.) Medical Society, April, 1877.

may have a relapse at any time, or bring on some sympathetic trouble in the other eye.

In order to bring out the points which it is intended to emphasize in this paper, let us look briefly at a few cases of the ordinary type.

CASE I. A young woman applied to me for advice as to a slight inflammation of the left eye, of two weeks' standing. A year ago she had had, as she thought, a like inflammation, but it had stopped at the end of three weeks, and the eye had since then been quiet. For this fresh attack she had been using some mild astringent wash, but with no relief. The sight was perfect, and the ophthalmoscope showed no signs of deep-seated trouble. The case seemed one of conjunctivitis, but as she had had no relief from astringents I used as a means of diagnosis a weak solution of atropia sulphate,¹ which dilated the pupil and brought to light a small adhesion. At the end of ten days the adhesion was broken through by the use of the strong solution of atropia, and a cloudiness of the cornea disappeared under the influence of mild local and general tonic treatment. She was now able to read the finest type with both eyes, without any exertion. At the end of a month, during the last week of which she had neglected the use of atropia, she had a relapse, and when I saw her again new adhesions had formed opposite the seat of the old adhesion; there were deposits of pigment on the capsule of the lens; the sight was quite defective (Snellen's types No. 8); and the eyeball seemed enlarged and was rather soft.

An iridectomy was declined; other means failing, Streatfield's operation of tearing through the adhesions was done, and the pupil was dilated fully. An interval of rest followed, but at the end of another month irido-choroiditis set in, and the pupil was slowly closed by the pouring out of lymph into its field. Iridectomy was done, but that failed to stop the progress of the disease; and although for three months the sight at times was almost normal, the eye at last had to be removed, as the previously sound eye gave signs of tenderness.

CASES II. and III. are of comparative interest. Both had lost their sight from extensive adhesions, and within four weeks after the iritis began: one had been treated with mercury, the other with tonics; the former had had sympathetic trouble, the latter none; the latter had had a second attack in the same eye, the former none. In neither case was atropia used. In both cases iridectomy will have to be done.

CASE IV. was seen within a few hours after the attack began; the

¹ In this paper a *weak* solution means 7 centigrammes (cg.) to 31 grammes of water; a *moderately strong* solution, 33 cg. to 31 grammes; a *strong* solution, 66 cg. to 31 grammes; while in very rare cases, a solution of 1 gramme to 31 grammes may be used:—

1 gramme = 15.43 grains troy.

1 centigramme = 0.154 grains troy.

Fl. 3i = 480 grains distilled water = 31 grammes nearly.

pupil was smaller than that of the right eye, was very sluggish, but dilated fully under the action of the weak solution of atropia. A moderately strong solution was then ordered, and the pupil was kept fully dilated. On the tenth day the patient neglected the drops for twenty-four hours, and on seeing him the next morning I found the pupil smaller, quite oval, and tied down by many very fine adhesions. The strong solution of atropia had only slight effect. Pain, which had up to this day been almost wholly absent, now became very considerable. To relieve this, potassium bromide was ordered, and with complete success. No effect being visible on the pupil the next morning, I at once applied three leeches to the temple, and encouraged after-bleeding. The pupil began to dilate the next morning under the influence of a weak solution of atropia, and that was maintained to the end of the case, some fifteen days afterwards. Sight has been perfect for the last two years.

CASE V. had an irritation of the iris (if I may use that term) rather than an inflammation; the pupil was sluggish, but not tied down. The eye was enormously congested, more so than in any case I ever saw. Weak solutions of atropia caused dilatation of the pupil, but it was not lasting. Astringents were of no use. The very strong solution of atropia was now used repeatedly, and it acted, I might say, magically, for the congestion of the eye began to grow less in a very few hours, and it was not long before the patient reported himself as well.

In looking over these cases we are to notice the rapid formation of adhesions when the pupil once fairly contracted, the rapidity with which, after adhesions had once formed, grave troubles of sight followed, and the beneficial results of atropia in strong solution.

Now, as iritis is by no means a simple disease which comes and goes and leaves no traces behind, I propose to take these cases as my text, as it were, and look a little closer at this disease, which often falls to the care of the general practitioner.

Iritis may easily be mistaken for conjunctivitis unless attention be given to the following points: in conjunctivitis the congestion of the eye is uniform, or nearly so, all over the eyeball, and is especially marked in the fold of conjunctiva exposed when the lower lid is pulled down. Its color is of a brilliant red; the network of congested vessels is extremely fine, and the vessels, if touched, can be rolled about under the finger-tip.

In iritis the eye, at first glance, often looks very much congested, but this congestion is more noticeable close to and around the cornea, and is almost absent in the fold of the lower lid; the color is more of a brick-red or even purple tint; the vessels are larger, their net-work is coarser, sometimes even absent; the vessels gradually taper off in size as they pass away from the cornea; they cannot be rolled under the finger, for they are deeper seated than those congested in conjunctivitis.

Sometimes there is a very narrow white ring wholly round the cornea, and then, just outside of this, the engorged vessels suddenly start out over the eyeball. Sometimes, though rarely, the conjunctiva seems puffed up around the cornea, or there may be œdema of the lids.

The presence of a copious flow of tears is not a diagnostic point of much value, being common to both conjunctivitis and iritis.

Then the state and behavior of the iris and pupil are to be considered. In conjunctivitis the iris of the eye affected is of the same normal color as the other; its look is clear and healthy; there are no vessels to be seen on its surface; the pupil is quite sensitive to the action of light and shade, and contracts and expands energetically.

In iritis the iris is more or less dulled in color, a blue iris becoming greenish, a brown iris reddish-brown; the iris is swollen and pushed forward, and sometimes congested vessels are seen on its surface. The pupil is contracted, except in one set of cases to which we will soon return, sometimes excessively so: first by the swollen state of the iris and its vessels, and then by adhesions forming or already formed between the edge of the pupil and the capsule of the lens.

A great deal depends, so far as an exact diagnosis is concerned, on whether the pupil is contracted or sluggish, or only seemingly so. Here we must remember that if the healthy eye be left open while the affected eye is tested by closing and opening the lids, the pupil sympathetically tends to follow the movement of that of the sound eye, and hence may give us a false idea of its mobility. Therefore close the sound eye and keep it closed; then test the affected eye, or, if both eyes be affected, test each one separately.

I do not doubt that many a case of iritis has thus concealed itself, and has been treated with simple astringents; then a few hours later adhesions have formed which have been difficult to get rid of without operative interference. Therefore, I repeat, test each eye separately.

Another point in diagnosis, if we are still in doubt, is to drop a weak solution of atropia into the eye, and in a short time we shall be able to tell whether adhesions be present or not. If we cannot see them by diffused daylight we can concentrate lamplight or gaslight on the eye by convex lenses. Pain is usually present in iritis, but not always; when present it is not itching and smarting as in conjunctivitis, but deep-seated, causing tenderness on the temples and forehead of the affected side, usually very severe at night, though there may be no pain when we press on the eyeball. In iritis the vision is more or less affected from adhesions, or from exuded lymph, or corneal implications. When lymph is exuded into the anterior chamber of the eye, it may assume a triangular shape, the base downwards, the apex pointing into the centre of the pupil. This odd appearance is probably due to the gravitation of the heavier particles to the bottom of the chamber. A

few very rare cases have been reported¹ where there was blood in the anterior chamber, which had oozed from the engorged vessels. These cases were said to be syphilitic.

We may sometimes find yellowish or reddish tubercles in the stroma of the iris, much resembling syphilitic gummata. When they are present that part of the iris on which they seem to grow is the only part inflamed, and the vessels converging towards it are noticeably enlarged. These tubercles often undergo fatty degeneration. When present they are an almost positive sign of syphilitic iritis, for out of sixty cases reported, syphilis could be proved in all but two. It is in a syphilitic iritis that we find a dilation of the pupil, and the pain is usually less.

Chronic iritis may be known from the history of a previous attack, whether acute or subacute, or it may come on in connection with diseases of the cornea. The change of color in such cases of chronic iritis is lasting, while in acute iritis the iris regains its normal color after some delay.

The cases which I have spoken of in beginning this paper all came on in the hottest part of the year, July and August: in none of them was there the least history of infection from syphilis or of congenital syphilis; in none of them were there any accounts or symptoms of rheumatism, although there were complaints of shifting pains in various muscles and joints.

It may be interesting to consider here the disputed question as to the syphilitic or arthritic causation of iritis, using the word arthritic to include acute and chronic rheumatism, rheumatic gout, and gout. Most authors, Bumstead, Meyer, Galezowski, Wells, and so on, falling back on the statistics of Graefe, say that from sixty to seventy-five per cent. of cases of iritis are due to syphilis. Most medical writers on rheumatism are silent on cases of inflammation of the eye coming on during or directly after an arthritic attack.

An able defense of the existence of a real arthritic iritis has lately been made by Mr. Jonathan Hutchinson,² who says: "Rheumatic iritis is a disease likely to be pushed to the wall in this age of specialism. It is nobody's child. Writers on rheumatism do not mention the eye. Writers on the eye dismiss rheumatism with contemptuous brevity. Syphilis has come to the front, and most physicians believe that if the truth could be reached, iritis would be found of syphilitic origin. . . . I believe confidently that iritis due to an arthritic diathesis is a common malady, and that very many cases treated as syphilitic are really arthritic."

This testimony, coming from so ardent a student of syphilis as Mr.

¹ Med. and Surg. Rep., March 7, 1874; also Klin. Monats. für Augenheilkunde, ix. 94, x. 7.

² Royal London Ophthalmic Hospital Reports, vol. vii., part 3; vol. viii., part 2.

Hutchinson, is of great weight. In these papers referred to he gives the history, and in some cases the treatment, of one hundred and fifteen cases of various diseases of the eye, in adults, taken at random from hospital and private practice, and of them a brief summary is annexed in tabular form : —

71, Chronic rheumatism and gout ; history or actual symptoms.

14, Rheumatic fever.¹

19, Gonorrhœal rheumatism.

8, Syphilis.

3, Unknown, that is, uncertain whether syphilitic or arthritic.

115 cases, of which 98 were of iritis, the rest of glaucoma, kerato-iritis, and so on.

This series of cases would seem to show a true arthritic iritis, due to a diathesis developing itself sooner or later in the shape of rheumatism, rheumatic gout, or gout, accompanied with or followed by symptoms of diseases of the eye. But it is not to be expected that we should always find in cases of arthritic iritis such physical signs of the development of a diathesis as are distinctive of syphilis, — patches in the throat, on the arms, chest, or abdomen, or swollen glands in the neck, and so on.

Congenital syphilitic iritis is observed mostly in infants or young children ; it almost always attacks both eyes, and there is much exudation of lymph into the field of the pupil.

Gonorrhœal iritis has no existence, the three or four cases reported as such having since been proved to be associated with gonorrhœal rheumatism.

The treatment of iritis, whatever may be its nature or cause, resolves itself first into care for the strictly local symptoms ; then for the constitutional.

We must keep the patients, if possible, in darkened rooms, or at least insist on their wearing tinted (blue or smoke) protecting-glasses or shades. Then comes the fight against the formation of adhesions, because they contract the pupil, and of themselves interfere more or less with vision ; because they may, even if we succeed in tearing them through, leave behind them indelible stains on the lens capsule ; because, once formed, they keep up an irritation of the iris at every movement of the pupil in response to light or shade ; because they may cut off the interchange of fluid between the two chambers of the eye ; and, finally, because sooner or later there is a tendency of these causes combined to set up irido-choroiditis, or later, sympathetic trouble in the sound eye.

How are we to avoid these dangers ? By the use of atropia, and by not using it too weak. Do not dally with a case of iritis. Attack it at once. The strong solution of atropia sulphate should be in every physician's hands, not only as a powerful arm, but as a means to diagnosis

¹ Of these fourteen cases of rheumatic fever, twelve had an iritis come on during the fever !

and prognosis. For if we find no adhesions we can say, with as much confidence as of any disease, this case will do well; or if adhesions show themselves we can say, depending on their number and thickness, this case may go slowly, it may have relapses; while in the worst cases, we can at once advise operative interference. But such strong solutions should not always be left in the patient's hands, as they sometimes cause symptoms of poisoning. In cases of long standing, and where the adhesions cannot be removed by solutions of atropia, it is better to give them up, or to try the effect of calabar bean,¹ or, better still, to advise iridectomy.

In one of the cases reported atropia was neglected by the patient, or perhaps it was not absorbed, owing to some trouble in the cornea; the result was the formation, in a very few hours, of adhesions which proved quite obstinate. In such cases as this, while keeping up constitutional treatment, we must apply leeches to the temples, on a level with and about an inch from the eye, and pretty close together, as the space is not large. In case we have to leave the application of the leeches to the patient, we should *mark the place where we wish them applied*, lest the patient apply them too near the eye, or to the lids, or even to the eyeball itself, with most destructive results.²

Astringent lotions are of but slight help during an attack of iritis, however much the congestion of the vessels may seem to call for them. This congestion will disappear only with a removal of the iritis.

If tubercles appear in the iris, hot-water compresses are often of much avail. Hot foot-baths are also useful. Ointments about the eye, smeared into the temples and forehead, act slowly and variably. Their nastiness is disproportional to their benefit. I rarely use them (extract belladonnæ, etc.) except when, owing to the patient's idiosyncrasy, solutions of atropia cannot be borne.

Paracentesis of the cornea is indicated when atropia refuses to act, when adhesions have formed, or when leeches prove of no help. A slight prick with a broad needle, letting off the aqueous humor, often relieves the most intense pain.

As relapses of iritis often occur, we should keep on with the use of atropia for some weeks after all inflammatory symptoms have ceased. If these relapses are not caused by the presence of adhesions, we must admit the existence of a diathesis of some sort.

¹ A filtered solution of thirty-three cg. of the solid extract of calabar bean to thirty-one grammes of water acts well in some cases. Or we may use gelatine disks impregnated with the extract; or esserin sulphate may be tried. But the latter is very expensive.

² Dr. Lebrun, *Annales d'Oculistique*, September and October, 1870, page 166, reports a case of sympathetic ophthalmia in the left eye of a man, aged thirty-nine, from irritation and loss of sight in the right eye, due to the bite of a leech, which was placed directly on the cornea of the eye, when a leech had been ordered to be put "near the eye," for some slight inflammation. In this case, although the injured right eye was removed, the left eye remained much affected, and probably forever as to it sight.

Constitutional treatment cannot be neglected ; but it is not always needful. Many a case of iritis may be cured by merely local treatment ; but then, in case there should be relapses, we are met by the question, Would these have occurred had we paid due attention to constitutional treatment ?

If we believe in the existence of an arthritic diathesis, we must employ the remedies proper for such cases. Salicylic acid¹ and quinia are highly praised. Then we may use potassium iodide, or ol. terebinth., or the various diaphoretics and diuretics. To relieve the pain we may rely on opium, potassium bromide, ammonium bromide, chloral hydrate, or amyl nitrite. Mr. Power,² besides the constant use of atropia, strongly urges the combination of strychnia, iron, and quinia bisulph., on the ground that iron and strychnia constrict the walls of the arteries of the iris and diminish the amount of blood supplied, while quinia materially influences the escape of white corpuscles, which are the probable cause of adhesions.

In regard to mercury, I must confess my ignorance. I have never used it in a case of iritis, but I cannot yet say that I have to blame myself for any eyes lost from iritis from not using it. Mercury may diminish inflammation of the iris if it have time enough to act, but meanwhile the pupil may become tied down to the lens capsule by adhesions.

I have been much struck by these following sentences : " One case [iritis] has taken much mercury at different times, and both eyes are very much damaged ; " ³ again, " The opposite eye will sometimes be attacked while the patient is taking mercury for the one first affected, and in rare instances during the existence of pyalism ; " ⁴ and again, " An infant under the influence of mercury is just as liable to have an iritis. " ⁵

Such sentences, at first puzzling me, at last led me to the belief that a case of iritis, whether syphilitic or arthritic, runs its own course independently of the presence of mercury in the system. However, if we think or if we have been taught that mercury is of avail in iritis, we should use it in the form of calomel and opium, or of calomel combined with tonics as Bumstead advises.

In closing, I may say that my reasons for going into the subject of iritis at such length have been because the disease is not an infrequent one amongst diseases of the eye ; because if neglected it leads to grave results ; and finally, and most especially, because I wished, in bringing the question before you, to gain new light from your own experience as to its syphilitic or arthritic origin or causation.

¹ Boston Medical and Surgical Journal, February 22, 1877.

² Royal London Ophthalmic Hospital Reports, vii. 4.

³ Hutchinson, *ubi supra*.

⁴ Bumstead, 1870 edit., page 668.

⁵ Medical Times and Gazette, July, 1860.

[An interesting discussion followed the reading of this paper. Dr. J. M. Bates, of Yarmouth, related some cases of iritis coming on during an attack of rheumatic fever, and he was of the opinion that in country practice cases of iritis were more often due to an arthritic than to a syphilitic diathesis. In answer to various questions, Dr. Spalding advocated the use of the moderately strong solution of atropia sulphate (thirty-three cg. to thirty-one grammes of distilled water or rose-water) because, although weaker solutions might equally well cause and continue a dilation of the pupil, the stronger solution caused more contraction of the vessels of the iris, thereby lessening the danger of the exudation of white corpuscles causing adhesions, and because it was more soothing. But sometimes, in elderly people, a solution of the above strength will cause dryness of the throat and other unpleasant symptoms, when a weaker one will be easily borne.]

RECENT PROGRESS IN OBSTETRICS AND GYNÆCOLOGY.

BY S. HOWE, M. D.

OBSTETRICS.

*Is the Fœtus in Utero affected by Medicine which is given to the Mother?*¹—In the New York Obstetrical Society Dr. Mattison reported a case of puerperal convulsions. The patient was treated with morphia, and was under its influence for about two hours; the morphia was given subcutaneously; the amount was about one and a half grains. The child was born asphyxiated, and shortly after had some convulsions, but finally recovered. An interesting discussion followed the report of the case, the opinions of Zweigel and Fehling being quoted. (Zweigel had found chloroform, after it had been given for some hours to the mother, in the urine of a new-born child. Dr. Fehling's experiment was as follows: A guinea-pig which was about to bear young had injected into its external jugular vein of the left side a large amount of curare; it was kept alive for some hours by artificial respiration. The abdomen was then opened, and the young guinea-pigs were found in a lively condition, unaffected by the drug.)

Dr. Barker opened the discussion by saying that he did not agree with Dr. Mattison, but thought that convulsions in a fœtus might take place due to opium poisoning. He cited cases in animals where opium poisoning was followed by convulsions, and said that in those savage races in which the brain is less developed than in the rest of mankind convulsions do occur after toxic doses of opium. The possibility of a poison passing from the blood of the mother to that of the fœtus is shown in cases of scarlatina, variola, and syphilis. That medicine

¹ American Journal of Obstetrics, March.

does not pass from mother to foetus the frequent unsuccessful or negative results of antisymphilitic treatment spoke very strongly. He mentioned a case of a syphilitic child born from a mother free from the disease, which had been latent in the father for a long time. At the next pregnancy he had the woman for six months under the mercurial cure, and, nevertheless, five days after birth the child began to develop well-marked syphilitic symptoms. But what spoke strongest against the passage of drugs from the mother to the child was the effect of anaesthetics. Dr. Barker said that during the last twenty-five years he had administered chloroform over one thousand times and had never seen a case where the death of the child could be attributed to chloroform; that he had kept women from eight to twelve hours under its influence, and in one case had given three and a half pounds. He thought that opium acted nearly in the same way. Formerly he had been very careful in giving opium to a pregnant woman, but after his experience in the following case he had always given it without any fear. The case was one of puerperal convulsions; the foetus was thought dead, and morphia was used very freely. The patient was a long time under the influence of the drug, when a living child was born. In conclusion, he said that he considered that the foetus in utero was not affected by medicine, and more especially narcotics, when administered to the mother.

After this, several other physicians concurred in the same opinion. Dr. Gillette spoke against the views expressed by Dr. Barker and others, and was of the opinion that morphia would affect the child through the mother. He cited the case of a pregnant woman with some valvular lesion of the heart, who during her labor was under the influence of morphia; when the child was born it was very much asphyxiated, and acted, Dr. Gillette said, as if it had been poisoned with opium. (Perhaps the asphyxia was due as much to the valvular lesion of the mother's heart and the imperfect oxygenation of the blood as to the morphia.) He mentioned six other cases where morphia had been given and the children at birth were all very much asphyxiated; pulse slower than normal; pupils contracted. In all these cases the labors were normal and the pains not weak. More important, however, are the two following cases which he cited: Two women during labor had one thirtieth and one forty-eighth of a grain of sulphate of atropia. In the first case the child was born in thirty minutes after the administration of the drug, and the child was unaffected by it. In the second case the birth did not take place for three hours, and the pupils of the child were very much dilated and did not contract in a strong light.

Dr. Jacobi thought that the amount of morphia necessary to produce sleep or relieve pain in a woman would be so diluted in the mother's blood that when it came in contact with the foetal circulation it would be harmless.

Dr. Thomas agreed with Dr. Gillette, and thought that opium did produce a marked effect on the fœtus. 'In two cases he had observed that after the administration of morphia the fœtal pulse fell in one case from 141 to 119, and in the other from 133 to 118.

Dr. Lusk¹ has a paper on this subject. After trying morphia in labor in his own cases, and from notes of cases of a friend, Dr. Beckwith, of the Nursing and Children's Hospital, he comes to the conclusion that morphia in no way affects the child. In the same journal Dr. Lama-druid reports a very interesting case of death of the fœtus, which he attributes to doses of morphia and chloral given two weeks before for neuralgia in a pregnant woman; that after the administration of the drug the motions of the child ceased, and when the child was born it appeared as if it had been dead two weeks.

The evidence seems on the whole to point to the opinion expressed by Drs. Barker, Lusk, and others, that under ordinary circumstances medicines given to the mother produce no effect on the fœtus, and only in rare cases can they be said to be hurtful. Of course, before the matter is settled many more careful observations are necessary.

Face Presentations. — Dr. W. Groner² recommends, in cases where the face presents, that the attempt to change this unfortunate position into the normal occipital one should be made. The change can be effected by external manipulation in most cases, and if not by external alone, by combined. The operation he calls Schatz's. He gives three cases, in two of which he was able to bring about this change by external manipulation, and in the other by the combined method, external and internal. Kormann³ reports a case where he accomplished this by the combined method. J. R. Humphrey, M. D., reports⁴ a case of face presentation which he succeeded in changing into the ordinary occipital one by placing the patient in the so-called knee-elbow position.

E. L. Partridge⁵ reports two cases of face presentation, in both of which he was able to bring on the desired change from the face to the ordinary occipital position by the combined method of external and internal manipulation. The operation was performed in the following manner: The os uteri nearly or wholly dilated and the membranes still intact, the patient was placed in a position which was easiest for the operator. The left hand was passed into the vagina, and two fingers pushed through the os; the membranes were then ruptured, but as the vagina was stopped by the hand the liquor amnii was prevented from escaping. Two fingers were hooked over the occiput, and it was dragged down into the cavity of the pelvis; the right hand was used to press on the

¹ American Journal of Obstetrics, July.

² Archiv für Gynækologie, volume xi., part 2, page 235.

³ Deutsche medizinische Wochenschrift, No. 5.

⁴ American Journal of the Medical Sciences, January, 1877.

⁵ New York Medical Journal, March, 1877.

fundus of the uterus and hold the child in the new position. The occiput was held down as long as possible, and the external pressure was kept up until the head was well engaged. The rest of the labor was normal.

Influence of Posture on Women. — J. H. Aveling, M. D.,¹ has written a long article on the influence of position on woman in regard to menstruation, ovulation, pregnancy, labor, etc. He says that posture has a marked effect on ovulation and the anomalies of menstruation; that women who are in the habit of sitting or working in one position are more liable to hyperæmia of the ovaries; that abdominal and tubal pregnancy is sometimes due to the effects of position; and that some of the various troubles of menstruation are influenced by the position which women keep.

The ordinary position of the woman during coitus is often a cause of sterility, and with a change of posture pregnancy will sometimes occur. During pregnancy the posture of the woman may cause change in position in the os uteri and uterus itself, and that toward the end of pregnancy unfortunate position or movement may cause the labor to begin. That position has a marked influence over labor is well known, and during the child-bed sickness the position on the back, if kept constantly, will often cause trouble. He recommends, therefore, during child-bed, change from the back to the side often; that at meal time and when the child is being nursed it is advisable for the woman to sit up in bed; and to prevent the lochia from remaining in the vagina and also to aid in thoroughly emptying the bladder the woman should get on her hands and knees for a few moments.

The Passage of Salicylic Acid and Iodide of Potash from the Mother into the Liquor Amnii. — Max Ruerge² has an article on this subject of some length, and as the result of trying many experiments he comes to the conclusion that, after giving a pregnant woman salicylic acid in twenty-five grain doses from ten to fifteen days, or about half as much iodide of potash, a very slight trace of these substances can be detected in the liquor amnii; but he considers it most probable that the passage is not direct from the woman's blood to the liquor amnii, but that it first goes into the blood of the fœtus, and from the fœtus probably through the urine of the same into the liquor amnii. The amount discovered is always very slight, and it is only with the most delicate tests that it can be detected.

New Forceps. — M. Tarnier³ has invented a new pair of forceps which have a third curve. The handles are curved like a letter S: the upper segment represents the blades, the lower the handles. In

¹ The Obstetrical Journal of Great Britain and Ireland, from January to April.

² Centralblatt für Gynaekologie, No. 5.

³ Annales de Gynécologie, March, 1877.

the lower ends of the blades two traction shafts are fitted, possessing a curve corresponding to that of the handles. A cross-bar unites them at their lower ends, and is the point from which traction is made. There is a screw on the handles by which the blades are tightened over the foetal head. Each blade is applied with its traction shaft adjusted. M. Talnier asserts that by means of these forceps the traction can be made always in the direction of the axis of the pelvis, whatever may be the position of the foetal head. He says that it is a real instrument of traction, and not a lever like the ordinary forceps. It allows the foetal head to follow the curve of the pelvis with freedom.

Instrumental Delivery without the Knowledge of the Patient. — Dr. James Braithwaite¹ describes a new forceps with which he has delivered thirty-eight times in three hundred and eighty-four labors, and thirty-seven children were born alive. Often he has been able to use them without the knowledge of the woman. The instrument is much lighter than the ordinary forceps, and has this peculiarity, that it is introduced as one blade. One of the blades fits into the other, and is held in position by a cap which passes over the ends of the handles. When the instrument is introduced the cap is removed, and the two blades are twisted into position. The blades are introduced into the hollow of the sacrum. The blades are then locked in the ordinary way and the foetus extracted.

(To be concluded.)

PROCEEDINGS OF THE PROVIDENCE MEDICAL ASSOCIATION.

V. O. HARDON, M. D., SECRETARY.

APRIL 2d. DR. H. G. MILLER reported a case of neuro-retinitis, in which there was no loss of vision throughout the whole course of the disease. The patient was fifteen years old, and came under observation on account of diplopia caused by slight paralysis of one external rectus. She had been ill for three weeks and had been treated for "brain fever." When seen, complained of frontal headache and double vision. Sharpness of vision was perfectly normal. Examination by the ophthalmoscope revealed an exceedingly well-marked neuro-retinitis. The optic disks were congested and swollen, and the veins very tortuous. Iodide of potassium and rest and tonics were ordered. In one week there was improvement in her general condition, but the ophthalmoscope showed an increase of the disease in the eye, but still without any loss of vision. After five or six weeks' treatment the swelling of the optic disks began to subside. Patient has been under treatment for more than a year, and the disks have now returned nearly to their normal state, though the veins still arch a little more than natural in coming out. There was probably

¹ The Obstetrical Journal of Great Britain and Ireland.

at first a commencing meningitis which ceased, and the inflammation extended along the sheath of the optic nerve to the retina without destroying the fibres of the nerve itself.

Hughlings Jackson gives cases similar to this, and in the reports of the London Ophthalmic Hospital cases are narrated with illustrated plates. At the Ophthalmological Congress in New York several such cases were also reported.

MAY 7th. DR. MITCHELL gave an account of the sickness and death of the late Dr. Thomas P. Shepard. Until Monday, April 30th, he had enjoyed usual health. That evening he thought he had taken cold, took a Dover's powder, and retired early, waking the next morning with pain in left ear, to which he attached no importance. He continued to attend to business until Thursday, when the earache had become so severe that he remained at home all day. That evening he was somewhat delirious, and Friday morning was partially unconscious. Dr. Mitchell was called at 12.30, and found his patient in a stupor. There was slight diffused redness and puffiness extending from the left ear to the angle of the jaw. Dr. Miller was called in consultation and at four P. M. the membrana tympani was punctured, serum and a slight amount of pus escaping. Dr. Shepard continued to fail, and at 7.45 Saturday morning had severe general convulsions. He became cyanotic during the day, and died at 3.45 P. M. At the post-mortem examination evidences of acute meningitis were found, nearly the whole surface of the brain being covered with a fibrinous exudation within the cavity of the arachnoid. The dura mater was inflamed over the petrous portion of the temporal bone and bathed in pus on its inner surface. Beneath this was a minute opening, probably a vascular foramen, into the mastoid antrum, which with the upper part of the middle ear was filled with thick pus.

DR. ANTHONY reported a case of fractured skull without immediate unconsciousness, with sudden death on the ninth day. The patient, a stout, middle-aged man, fell twenty feet into the hold of a steamship. A fracture of the lower third of the right radius with dislocation of one metacarpal bone, a slight cut on the forehead, and the loss of one incisor tooth were the only appearances of injury. He complained of pain in the lower jaw and answered questions rationally except as to his residence. He was kept quiet, taking one fourth of a grain of opium occasionally. On the sixth day he complained of pain in the back of the head and intolerance of light, symptoms which increased in severity on the seventh and eighth days, and he died suddenly on the morning of the ninth day. From receipt of the injury until death, his pulse was at no time below 60 or above 70 per minute, and at no time was he delirious or comatose.

On removing the scalp, eight hours after death, an irregular fracture of the frontal bone was discovered, involving both orbits. About two ounces of clotted blood were found between the calvarium and dura mater. No effusion into meninges. Brain tissue normal, excepting one small spot under a fragment of detached bone, where softening had commenced.

DISEASE OF THE MIND.¹

THE paper on Disease of the Mind, by Dr. Charles F. Folsom, secretary of the State Board of Health, in the last report of that board, has been republished in the form of a neat monogram. This will be a convenience to many readers who should be interested in its contents, and to whom the report may not be accessible. Dr. Folsom deserves well of the profession and the public for this contribution to our knowledge of recent progress in the management of the insane in Great Britain. This is really the *gist* of the book. In our brief notice we must pass by the first thirty-four pages of history as familiar ground to many, and of less practical importance than what comes under the head of Modern Methods of Less Restraint. Suffice it to say that the author does justice to American progress, and shows that twenty years ago we were in advance of foreign countries in all that related to the best interests of the insane.

During the last twenty years Dr. Folsom thinks the English and Scotch asylums have taken the lead. This he attributes (1) to the influence of the Board of Commissioners in Lunacy; (2) to the introduction of clinical teaching and pathological investigation; and (3) to the fact that the British Medico-Psychological Association has admitted physicians who are not superintendents. Let us note in passing that the recently formed New England Psychological Society has done the same. He gives a letter from Dr. Stearns, of the Hartford Retreat, who says he was impressed with the following points in the Scotch asylums: (1) occupation; (2) non-restraint; (3) personal freedom; (4) pathological investigations.

In regard to occupation Dr. Folsom gives no statistics, except what may be extracted from a letter of Dr. Fraser, of the Fife and Kinross Asylum, who considers constant employment a necessary adjunct to non-restraint. He says: "At present date all the male patients, except from five to eight, are sent out every day." He employs 130 out of 138 females in sewing and house-work. Dr. Wilbur² visited this asylum in 1875, and made a copy of the register of work for the previous day. He found 214 out of 261 had been at work; at the Midlothian and Peebles Asylum, 148 out of 168; at the Argyle and Bute Asylum, 185 out of 217; at the West Riding Asylum in England, 1017 out of 1407. This is an average of 75 per cent. employed, and is the result of special and systematic efforts, aided by favorable conditions, climatic and personal. Perhaps this percentage could be matched by some of our hospitals in agricultural districts during the season most favorable to out-door employment, but we have no statistics which can be compared directly with these. Dr. Earle, of Northampton, gives the number of days' work for the year, which is the only way to get an exact idea of the amount of work performed. In 1876 an average of 475 patients did 15,600 days' work. This is 33 days per patient, or, if 75 per cent. were employed, 44 days. This does not include house-cleaning, bed-making, or table-work, as do the Scotch asylum figures, nor much

¹ *Disease of the Mind*. Reprinted from the Annual Report of the State Board of Health. By CHARLES F. FOLSOM, M. D.

² Report on the Management of the Insane in Great Britain, 1877.

work done at irregular times "on the ornamental grounds, at the stable, in the bakery, the boiler-room, and the carpenter's shop," which is unfortunate, as it would probably double the number who could be said to have been employed. We do not know what percentage of patients in the above-mentioned foreign asylums were employed every day of the year.

Notwithstanding this difficulty of comparison, I think it cannot be denied that out-door labor especially is more generally and largely in practice in the asylums of Great Britain than in the United States. There is a conviction prevalent here that forcing employment much beyond the easily available working material "does not pay." House-work and farm-work absorb nearly all this, and there are practical difficulties in the way of enforcing labor on patients unwilling to work. There is no general or prescribed registration of labor to stimulate superintendents by comparison of results. The shops for varied mechanical occupation introduced at Utica by Dr. Brigham, in 1847, are said by Dr. Wilbur to have fallen into partial disuse under Dr. Gray. Of the asylums above mentioned it is only at West Riding that many patients are mechanically employed, and here, too, they are only employed in shops necessary to the carrying on of an establishment for fourteen hundred patients. This is the case in our own asylums. As to its desirability, it seems undeniable that regular employment suited to the mental and physical condition of the patient is necessary, especially for the comfort and well-being of the chronic insane. This being the case, there should be afforded in all our asylums sufficient opportunity for such employment, regardless of trouble or expense. Systematic registration of labor would tend to increase its use.

The position of American superintendents on the use of mechanical restraint has often been explained, and perhaps too much insisted on. There is really but little difference as to the theory of its use between our own and foreign asylums. Dr. Clouston says, in a letter to Dr. Folsom, quoting from his last report: "I do not believe that non-restraint should be so elevated into a principle that no departure from it is allowable." Dr. Sheppard expresses a similar opinion and adds: "I believe its use to be neglected in many asylums to the detriment of the patients." Many other authorities might be quoted to the same effect. A few think it should never be used. The degree to which it may be disused is, after all, the important question. Drs. Bell and Ray thought one or two per cent. only needed it. We have no statistics to show what the average percentage is in this country. In many asylums it is probably one or two per cent., in some more, and in some less. In English asylums it is frequently disused entirely on principle. In some the right to use it is claimed, but seldom or never exercised, and in others the percentage is about the same as with us. Seclusion is also largely disused, but is preferred to mechanical restraint, and is frequently substituted for it. The *Lancet* (June 2, 1877) says, in an editorial on Chloral in Asylums: "We believe the recourse to drugs to produce quietness is extant in a majority of our asylums, and in too many instances constitutes the alternative form of repression, without which quiet wards could not be secured under the system in force in the absence of mechanical restraint or manual coercion."

Dr. Folsom gives the opinion of a "recognised English authority" that there

is some force in the argument about the American people being less easily controlled. "He finds that most patients who have returned from America kick against discipline of any kind." Dr. Folsom thinks the golden mean will be found somewhere between the practices of the two countries, but nearer the English side. He notices the fact that ten years ago many accidents happened in English asylums of a kind almost unknown to us, apparently from rough handling by attendants. These, he thinks, are diminishing. In this country personal restraint is considered the worst form, and that is probably the English opinion at present.

Dr. Folsom's table of Fatal Accidents for Ten Years in Asylums for the Insane does not prove much, nor does he claim that it tends to show more than that a diminished use of restraint does not increase the percentage of fatal accidents. As between the United States and Scotland, the former presents the best record, namely, 1.84 to 2.04 per 1000. Between England, Scotland, and Wales together and the United States the ratio is 1.57 to 1.84, a difference which affords little reliable evidence. The ratio per thousand of England is 1.09, but it is hardly fair to compare England alone with the heterogeneous population of the whole United States. No statistics from Ireland are given, and perhaps none were obtainable.

The exclusion of non-fatal accidents also prevents the table from having any value in its bearing on the effect of diminished restraint. This comparison was impossible because our asylums have no registration of accidents, and there is also evidence to show that the English registration is unreliable. The reviewer of asylum reports in the *Journal of Mental Science*,¹ after stating that superintendents are bound by law to enter all minor injuries, goes on to say that a superintendent candidly admitted that he "never entered such injuries as bloody noses, black eyes, and ordinary scalp wounds because he did not think them of sufficient importance, and also because if he once began he would have nothing else to do"! The same writer gives a list of what may be called major injuries occurring at the Birmingham Asylum in a single year. These were "two broken legs, one broken thigh, two broken collar bones, one broken rib, two fractures of the neck of the femur, a dislocation of the shoulder, a thigh badly gored by a hog, an accidental amputation of a finger, and two cases of accidental suffocation." This experience was probably exceptional, and may have had little to do with the percentage of restraint, but it shows at least of how little value a table of fatal accidents is without the non-fatal and minor injuries. Neither is it safe to infer that there will be the same proportion of each.

The same reviewer writes: "It is every year becoming a graver and more important question whether the determined set against seclusion, which has obtained for so long, has not been in itself a mistake. It is certain that there is a disposition on the part of some to break down the hard and fast lines which have hitherto been followed, and to judge every case on its own merits." A reviewer of the last report of the Lunacy Commission² says: "One point more seems to call for observation, namely, that the employment of mechan-

¹ Maudsley's *Journal of Mental Science*, January, 1877.

² *British and Foreign Medico-Chirurgical Review*, January, 1877.

ical restraint has somewhat revived in our asylums, and that an increasing opinion obtains that it is in some instances a necessary and salutary means of treatment and management. This circumstance betokens a considerable revulsion of sentiment within the last ten or twelve years." It also appears, from the same authority, that "the Commissioners in Lunacy have lapsed from their old ardent advocacy of non-restraint, for which they battled many years with recusant asylum physicians." These opinions show a tendency to reaction towards that "golden mean" which all will grant is so desirable.

The question of allowing greater personal freedom to patients admits of a more profitable discussion. The recent progress of the Scotch asylums in this respect is fully explained in the letters of Dr. Fraser, of the Fife and Kinross Asylum, and Dr. Clouston, of Morning Side, Edinburgh. The former is a district asylum with an average of about two hundred and fifty patients. There is one attendant to twelve patients. The windows have wooden sashes with three eighths inch brass rods running across the lower half, which could easily be wrenched out by the hands. There is no such thing as an iron-barred window in the house. The visitor can be conducted in at the front door through the male wing, into the female wing through the dining-room, and thence through five out of seven of the female wards without once unlocking a door. The outer doors of the ground wards are also unlocked. Two wards on the female side require to be locked on account of three chronic maniacs and two or three demented or suicidal patients. Another detached ward for chronic maniacs is kept locked. The male convalescent building is open from seven in the morning till eight at night. An attendant and his wife have charge. No one from this ward has broken his parole for two and a half years. Dr. Fraser has abolished his airing courts. In case of outbreaks of violence he puts the patient in seclusion. Dr. Fraser thinks the restraint by attendants the worst form.

Dr. Clouston says he has twenty-two out of seventy patients of the higher class on parole and living in cottages or pavilions whose arrangements are perfectly home-like. Throughout this whole department he substituted, in 1874, large plate-glass for small panes. He uses restraint and seclusion very seldom in the east house, for higher class patients, but oftener in the west house, for paupers, from having fewer attendants there. In 1876 he writes approvingly of the plate-glass, and says that he has abolished airing courts as tending to make attendants less watchful. He has begun putting plate-glass in the west house, and is gradually increasing his staff of attendants, which he thinks should be in the ratio of one to three for the better class and one to eight for paupers. This change, he says, is made without reference to the plate-glass and open doors which are found in some of his wards. He says he deliberately runs risks as to escapes and even suicides, and so do our superintendents when they put large numbers on parole or send two thirds of their patients on frequent harbor excursions.

Sir James Coxe, of the Scotch Lunacy Commission, writes that none of the new asylums are fitted with bars other than the brass rods. When these are not used the opening capacity of the sashes is restricted to about six inches. The above and similar methods of increasing the personal freedom of patients

are also in use at the Brook Villa, the Rainhill County Asylum, and at West Riding in England. Professor Westphal, in a letter to Dr. Folsom, states that the English non-restraint system is being tried at Hamburg, Halle, Göttingen, Berlin, Hall (Tyrol), Heppenheim, Neustadt, Eburwalde, and in German Switzerland. Window guards have been given up wholly or in part at Roeskilde on the Island of Zealand, Denmark, and at Hamburg; the new asylum at Marburg is to be wholly without them. At Munich plate-glass too strong to be easily broken is being put in.

Although these improvements are still in the experimental stage, they are experiments in the right direction. There is no doubt that a greater amount of personal freedom, real and apparent, might be allowed to many patients who now submit to a show of imprisonment for the sake of others less trustworthy. As far as this excites a feeling of injustice, or resentment, or degradation, it does harm, and demands immediate remedy. In our asylums the quieter patients are allowed much real freedom. They can go and come about the house and grounds simply by asking to have a door unlocked, and they realize that they are kept by the necessities of the case rather than by bolts and bars. If any plan can be devised to meet the wants of both classes in the same structure or in detached wards, it should be adopted.

We have not space to discuss the necessity of a permanent commission in lunacy. If established, we think one of its best functions would be to authorize the trial of the above improvements. This, in addition to the collection and comparison of statistics of labor-restraint, accidents, and injuries, would, we think, justify the appointment of such a commission, unless the same results could be brought about in some better way.

It would not be impracticable, it seems to us, to set apart either the new Worcester or the Danvers Asylum for experimental purposes. Nearly all the reported improvements could be introduced with little change of structure. Even pretty cottages could be built on the farm, like those of which heliotype are given, costing less, probably, per patient than the Danvers Asylum. Every asylum should be at once allowed a pathologist, resident or otherwise. It is certainly time to decide by actual experiment whether the English and Scotch improvements are suited to asylums in the United States.

T. W. F.

MANUAL FOR MEDICAL OFFICERS.¹

A NEED has long been felt by medical officers in the militia of a work which should give concisely and plainly the various duties pertaining to their office. That need has now been met, and the manual prepared by Dr. Forster is an admirable *résumé* of all that a medical officer, whether serving in the regular army or militia, should know in order faithfully to discharge the duties which belong to his department. The book has been examined by a medical board, and on their recommendation has been adopted for the use of the medical officers of the Massachusetts Volunteer Militia. There can be no question but that it will be found to be of great value to all for whom it was intended.

¹ *A Manual for Medical Officers of the Militia of the United States.* By EDWARD JACOB FORSTER, M. D. New York: Hurd and Houghton. 1877. Pp. 102.

THE GROWTH OF CHILDREN.¹

THE author embodies in this article a report of a series of investigations undertaken for the purpose of studying as far as possible the many important questions connected with the growth of children, such as the influence of sex, of race, of climate, and of age upon the rate of increase in weight and height. For this purpose there was made, with the assistance of the teachers, a systematic measurement of the pupils of the public schools of Boston and vicinity, as well as of several private schools, the whole number of observations amounting to 24,500.

The results of these investigations we find in a series of tables and plates containing a very valuable array of figures from which the author draws his conclusions. The tables are fifteen in number, and there are an equal number of plates. In the latter the graphic method has been adopted, so that by means of curves the important conclusions which are to be drawn from an examination of the tables can be seen at a glance.

In the chapter explanatory of the method of investigation it is made evident that the author has left nothing undone to prevent inaccuracy or error from creeping in.

The conclusions, which seem to be justified by the data contained in the above tables, are summed up as follows:—

I. The growth of children takes place in such a way that until the age of eleven or twelve years boys are both taller and heavier than girls of the same age. At this period of life girls begin to grow very rapidly, and for the next two or three years surpass boys of the same age in both height and weight. Boys then acquire and retain a size superior to that of girls who have now nearly completed their full growth.

II. Children of American-born parents are, in this community, taller and heavier than children of foreign-born parents, a superiority which seems to depend partly on the greater average comfort in which such children live and grow up, and partly upon differences of race or stock.

III. Pupils of American parentage at the public Latin School, private Latin School, and Massachusetts Institute of Technology are (apparently for similar reasons) superior in height and weight to the generality of boys of American parentage attending the public schools.

IV. Pupils of the same selected schools are also taller and heavier than English boys of the non-laboring classes attending public schools and universities, the superiority in weight being, as a rule, more marked than that in height.

V. The relation of weight to height in growing children is such that at heights below fifty-eight inches boys are heavier than girls in proportion to their stature. At heights above fifty-eight inches the reverse is the case.

The above summary gives but a very imperfect idea of the amount of valuable material collected as a result of these investigations. Many of the data

¹ *The Growth of Children*. By H. P. BOWDITCH, Professor of Physiology, Harvard Medical School. Eighth Annual Report of the State Board of Health of Massachusetts. January, 1877.

which are presented in the tables it is impossible for the moment to utilize. Some of these are reserved for future work, while others do not give a sufficient number of observations to justify drawing general conclusions from them, or need collections of similar statistics in other communities with which comparisons may be made. The author, in conclusion, enumerates briefly the several points to which the attention of the collector of vital statistics may be profitably directed.

Dr. Bowditch's paper deserves attention not only for the intrinsic interest of the subject, but as a model to be studied with advantage by all those who may propose to engage themselves in similar work.

MARINE HOSPITAL SERVICE.

THE medical profession should be congratulated that one of the most striking instances of civil service reform exists in a department of the government having a physician at its head, to whom we are indebted for a complete revolution in the system of its administration. We have from time to time called attention to the reports of the supervising surgeon-general, Dr. Woodworth, but we feel that the profession is not fully aware of the great improvements which he has quietly introduced, making this service second to none in point of discipline and organization. To this department is intrusted the care of the merchant marine of the country, of the one hundred and thirteen thousand seamen of our registered vessels. As the number of seamen in the navy is not over eight thousand, and our army does not exceed twenty thousand men, we have in the marine service a field for the exercise of no small amount of executive ability. It has no connection with the navy, but reports through its chief officer, the supervising surgeon-general, to the secretary of the treasury.

From its establishment in 1798 until 1873, appointments of medical officers of this service were made without any preliminary examination. The result was that men unsuited for the work frequently found their way into the ranks. The service was far from efficient in its operation. Many of its surgeons were of a low grade of professional standing, and owed their positions to political influence. Each hospital was managed on an independent basis, and was subject to the caprice of the surgeon in charge. By reason of failure to collect the hospital dues in a proper manner the service was in arrears every year, and a large appropriation was called for annually from Congress. The hospitals were for the most part dirty and ill adapted for the uses required of them. Since 1873, however, the medical staff has been appointed after a full and searching examination conducted by a board of surgeons on a plan very much resembling that employed in the army and navy. This great improvement is largely due to Dr. Woodworth, who, with his assistants, has made the organization of the service commensurate with its needs without the aid of legislation. It would relieve him, however, from much embarrassment and place the new changes upon a more solid basis were provision made by law for these examinations. The hospital fund is a trust in the hands of the government

derived from the wages of seamen, and should in no sense be employed to benefit those who seek rewards for political services.

The effect of this change in the system has been marked, and shows itself in the increased efficiency of administration, and in the improved appearance and condition of the hospitals. The hospital at this port is at present in charge of one of the new *régime*, Dr. J. B. Hamilton, a highly educated officer, formerly in the army, and one thoroughly acquainted with the marine service. The hospital, we need hardly say, is conducted on strictly marine hospital principles.

We would also call attention to an examination by the board in June last, in which a former editor of the JOURNAL, Dr. Francis H. Brown, acquitted himself with the highest honors. Dr. Brown's experience in hospital administration will fit him for his duties in this new field, and we may add that we can see no more favorable sign of the healthy tone of the service than that men of standing like these should seek positions in it.

MEDICAL NOTES.

— Dr. Isidor Schnabel, for many years first assistant of Professor Arlt in Vienna, has received the appointment of professor of ophthalmology in Innsbruck.

— We see by a recent exchange that Professor Billroth has gone to St. Petersburg to perform an operation.

— According to J. Paneth, *Centralblatt für die medicinischen Wissenschaften*, June 2d, the epithelium of the urinary bladder appears under two distinct forms, according as the organ is contracted or filled with fluid. In the first case the upper layer of cells are broader than they are high, though they are not so flat as pavement epithelium usually is. The second layer consists of tall cells, which from their form are rather to be classed among the cylindrical cells; they are pointed at the bottom, sometimes toothed, trumpet-shaped or nail-shaped, and the oval nucleus lies in the upper half or third of the cell. Below this layer come cells with a small body and relatively large oval nucleus. The boundaries which separate the cells are not very distinctly seen for the most part. In the bladder of a recently killed animal filled with absolute alcohol and then sunk in the same fluid, the epithelium appeared differently. It then consisted entirely of flat pavement cells. Cells which were higher than their breadth were wholly absent; on the other hand, the cells on the bottom were flatter than in the middle layer. In moderately filled bladders transition forms between the two above-described forms of epithelium were observed. In making examinations of urine it is well to bear these observations of Paneth in mind before deciding on the source of epithelium.

— Dr. J. Bartlett Rich, of Bethel, Maine, has been appointed superintendent and resident physician at the Worcester City Hospital, in the place of Dr. Charles A. Peabody, who has resigned in order to accept the position of port physician, Bombay, India. Two new pavilions wards have been added to the hospital since last year.

— The death of Dr. Abram Sager, of the University of Michigan, a graduate of the Sheffield Scientific School, is announced as having occurred in Detroit. Dr. Sager was a member of the American Association for the Advancement of Science; of the Academy of Natural Sciences of Philadelphia, and the Academy of Science of Chicago; of the American Medical Association; of the New York State Medical Society, and of the Obstetrical Society of Philadelphia. He was the author of a variety of papers in the *Peninsular Journal of Medicine* and *Detroit Review of Medicine*, besides papers in the *American Journal of Science*, and in the proceedings of the Academy of Natural Sciences at Philadelphia. He was a distinguished botanist. He was married in 1838 to Sarah E. Dwight, daughter of Darius Dwight, of Detroit, and five children survive him.

Dr. Sager was, it will be remembered, the only member of the faculty at Ann Arbor who resigned when the homœopathic appointments were made.

— Professor Nathan Ryno Smith, of Baltimore, died in that city on Tuesday, July 3d, in the eighty-first year of his age. He was born in the town of Cornish, New Hampshire, on the 21st of May, 1797. His father, Professor Nathan Smith, was at that time professor of medicine in Dartmouth College, New Hampshire. In 1813 the father was elected professor of surgery and medicine in Yale College, and soon after removed to New Haven. The son entered the freshman class of Yale College in 1813, and took his degree in 1817. He received his medical degree from Yale in 1823. In 1825 he was appointed professor of surgery and anatomy in the University of Vermont, and organized the medical school of that institution. In 1827 he accepted the chair of surgery in the medical department of the University of Maryland, which he filled until 1870. He invented the apparatus commonly known as "Smith's anterior splint" in 1860. His private practice was very large, in which his son, Dr. A. P. Smith, succeeds him. He may be considered as one of the most prominent of American surgeons.

— Since the inauguration of the crusade of the authorities against unlicensed dogs, between two and three hundred have been killed. Many of these animals were diseased. Many were taken from poor families unable even to support themselves; most of them were caught in the lower quarters of the city, and of the entire number killed there were not more than three well-bred dogs.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. HOMANS.

Popliteal Aneurism; Ligature of the Femoral Artery; Recovery.— T. S., aged twenty-eight, laborer, entered the hospital June 4, 1877. He was a rugged, healthy man, but very intemperate. The aneurism was situated in the left popliteal space, and was about three inches in diameter. The impulse and dilatation of the tumor were very distinct. The growth was first noticed about four months ago, and was then the size of a walnut. The patient was unable to work on account of the pain. The left leg was nearly an inch larger round than the right at the time of his entering the hospital.

A tourniquet was applied to the femoral June 5th, and allowed to remain only two hours and a half because of the severe pain. It was used to slow the current of blood in the artery, but not to stop it entirely.

The leg was then kept firmly flexed upon the thigh for three days, with no apparent benefit. The pain and numbness of the foot and leg were very severe in spite of a free use of opiates.

June 19th. The patient was etherized and the femoral artery tied with a silk ligature in Scarpa's triangle by Dr. Homans. Pulsation in the tumor immediately ceased. The wound was closed with sutures, and the limb wrapped in cotton.

Five hours after the operation the patient was comfortable. Pulse 72. The temperature, as taken by a fever thermometer, was two degrees lower in the left popliteal space than in the right.

June 20th. The patient was comfortable aside from the numbness and prickling sensation in the left leg and foot, which had troubled him ever since the compression was applied. The temperature in the right popliteal space was 98.6°, but only 95° in the left.

Three days after the operation the temperature of the left leg was one degree higher than that of the right. At other times it was almost always lower both to the hand and by the thermometer.

Pulsation was felt in the dorsal artery of the foot four days after the ligature of the femoral. The sutures were all out of the wound and it was doing well. The patient was very comfortable.

The ligature came away on the twentieth day. The veins were enlarged and the leg weak. In thirty-three days the patient was walking about by the aid of crutches. The aneurismal tumor had shrunk to one half its former size, and was devoid of pulsation. There was still some pain and numbness in the foot, but it was diminishing.

Compound Dislocation of Foot; Amputation of Leg; Recovery. — J. McD., laborer, aged twenty-eight years, sustained a compound dislocation at the left ankle-joint by a heavy iron water-pipe falling upon him June 26, 1877. On his entering the hospital the foot was attached to the leg by only a few shreds of the soft parts on the outer side. No bones were fractured.

Eleven hours after the accident Dr. Homans amputated the leg at the middle third by the flap method. The larger vessels were secured by ligatures, but to check the free hæmorrhage from the bruised muscles recourse was had to sponges dipped in ferric alum, which were placed between the flaps and secured by a firm bandage. The bleeding was in this way effectually controlled, and the patient rallied well from the operation.

In spite of profuse suppuration and a tendency of the flaps to slough, the patient did well. The ligatures all came away in fifteen days, and left the stump in an excellent condition.

At the end of a month the patient was doing well, with the exception of a slight necrosis of the tibia.

Dr. Homans amputated the leg of a man in this hospital a year ago, for a similar injury. The patient's right foot had been caught beneath a locomotive, which was being unloaded from a truck, the ankle-joint torn open, and the foot

displaced outwards. The soft tissues were extensively lacerated, but the only fracture was that of one of the cuneiform bones. The leg was amputated at the junction of the middle and lower thirds, and the patient was discharged well in sixty-one days.

LETTER FROM VIENNA.

MESSRS. EDITORS, — The following few items with regard to some modern improvements will probably interest all who busy themselves much with practical psychology and embryology. The various so-called improvements here mentioned have been pretty thoroughly tested by myself as well as by many collaborators in the same laboratory, and I here lay before you the resulting opinions.

The "gelatine method" of Dr. Ludwig Loewe, of Berlin, is, I suppose, comparatively unknown in America, it being almost quite so in Europe, and had not the author himself practically convinced me of the many advantages of this process I should never, I believe, have attempted its application. It is now about a year since his publication of a description of the process in connection with a paper on *Der Binde substanz im Centralnervensystem der Säugthiere*; since that time it has been used in the embryological and histological laboratory of the Vienna University with such perfect satisfaction that now no other method is followed in this laboratory for embryo and brain cutting. The gelatine, if well prepared, does not in the least obscure the field. The formula for its preparation is: One part gelatine or clear calves'-foot jelly, one part glycerine, and five parts water. This is put upon the water-bath and thoroughly dissolved, the mixture being constantly stirred. When the solution has been well cooked on the bath it is taken off, and after straining through a clean towel is allowed to cool, after which it is ready for use. The specimen to be cut must previously have been thoroughly colored, and this is the only difficult part of the process. For example, a medulla oblongata will often take from one to three weeks in the best of carmine to color well and thoroughly; an embryo one to two centimetres long usually requires the same length of time. After coloring, the preparation is well washed in water and then submerged in the gelatine at a temperature of not more than 40° R. In this temperature the preparation remains until the gelatine has saturated it completely, — from one to three days, — and is then taken out. A piece of holunder pith (*holunder mark*), or if necessary several pieces side by side, are cut flat upon one side, and the preparation laid upon it, the gelatine being dropped upon the latter so as to cover it and fix it to the pith. After cooling a few minutes the whole is put into *absolute* alcohol, where it remains a few days, the longer the better, and is ready for the microtome. For free-hand cutting it were a superfluous process, it being demanded only for cutting large sections of brittle preparations, such as brain, lung, embryo, larynx, etc., where the microtome is usually indispensable, not every one possessing the "gift of making sections." The microtome having been filled with warm fluid wax, the preparation is immersed in it. After cooling, the wax is cut away, so that the knife does not come in contact with it in cutting. Before making each section a drop of oil of cloves is applied to the preparation, and the subsequent cut is

ready for the slide, — a drop of dammar-lac and a deck-glass, — and the section is done. The cuts are thus preserved in the regular order of their relations to one another. Dr. Loewe uses Canada balsam (thirty) and oil of benzole (seventy), but I find that dammar varnish answers as well.

With regard to coloring, I am sure that as a general dye those who have made most experiments with colors will agree with me that the best agent is carmine (one), water (one hundred), and sufficient ammonia to render it *markedly* alkaline. Hæmatoxyline stands next, then come picro-hæmatoxyline, and picro-carmine. These latter are excellent for coloring sections of skin. The new dyes, eosine and purpurine, do not answer for microscopical work; they color too brightly and intensely, no matter how weak the solution may be.

Attention has again lately been called to Ranvier's application of iodine solution to cartilage; the mahogany-brown coloring which results therefrom is supposed to be due to glycogen. Chemical investigation has, however, failed to uphold this theory as yet.

The method proposed by H. R. O. Sankey¹ of coloring brain with aniline black can meet with but little favor with any one who has a microtome at his disposal. This method consists in making sections one eighth of an inch thick, then coloring in aniline black, drying on the slide for one or two days, then planing down the cut to the required thinness with a small plane made for the purpose, or with a razor. This method possesses no evident advantages over the carmine coloring, inasmuch as good carmine colors every part and penetrates the whole preparation, whilst aniline black dyes only the outer portion, no matter how long it is permitted to lie in it.

The simplest and I think the best microtome is the modified Dudden's. The modifications were added by Prof. S. L. Schenk, and partly by myself. The apparatus is to be fixed into a hole made in the table for the purpose. If desirable, a clamp-screw may be substituted for the plate, so as to be able to fasten it to the edge of the table; this is, however, a much more expensive addition than the plate. There are eight of these apparatuses in use at our laboratory, and all give great satisfaction. The parts are so united that upon loosening the screws the whole may be taken out of the cylinder together, in order to allow the application or removal of the pan. The upper surface of the cylinder is covered with a glass plate, in order to facilitate the movements of the knife. The pan is used exclusively for brain cutting under alcohol, for which purpose the knife will be found sufficiently broad and thin for making sections of all dimensions. The section, after being made, is floated carefully on to a slide by means of a camel's-hair pencil, taking care, if possible, not to touch the section directly; the slide and preparation are then lifted out of the alcohol, and oil of cloves is applied to the section until the whole is uniformly transparent; then when the superfluity of fluid has been allowed to drain away a few drops of dammar-lac and the deck-glass finish the operation. After the lapse of a few days it will be found necessary to apply more dammar-lac to the preparation, on account of the gradual evaporation of the remaining oil of cloves.

In the drawing apparatus of Dr. Jos. Radwaner an ordinary deck-glass is

¹ Collected Papers, University College, London, 1876.

arranged at right angles with the surface of the ocular lens of the microscope. The specimen to be drawn having been first focused, the eye will have a picture of the specimen at a point where it can be traced with a pencil with exceeding ease. It is necessary to get the deck-glass into the correct angle; a little patience always accomplishes this.

Hoping that the greater part of the above will be of interest to the readers of the JOURNAL, I remain yours respectfully, L. S. OPPENHEIMER.

VIENNA, July 2, 1877.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING AUGUST 4, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	650	31.38	27.46
Philadelphia	850,856	407	24.86	22.88
Brooklyn	527,830	273	26.89	24.31
Chicago	420,000	214	26.49	20.41
Boston	363,940	187	26.72	23.39
Providence	103,000	46	23.22	18.34
Worcester	52,977	23	22.58	22.00
Lowell	53,678	30	29.06	22.21
Cambridge	51,572	39	39.32	20.54
Fall River	50,372	22	22.71	22.04
Lawrence	37,626	25	34.55	23.32
Lynn	34,524	13	19.57	21.37
Springfield	32,976	7	11.04	19.69
Salem	26,739	18	35.00	23.57

WE have received a classified catalogue of Macmillan & Co.'s educational publications, with a short account of their character and aim. It contains a list of the English, Greek, and Latin classics, with a brief description accompanying each title. Law and theology are also represented. It is a neatly prepared pamphlet, and useful for reference.

DR. JOHN E. TYLER has been qualified as a member of the commission to revise the system of administering the state charities.

THE new manual for medical officers, prepared by Major Edward J. Forster, surgeon of the fifth regiment, is now distributing to the medical officers of the militia from the adjutant-general's office.

BOOKS AND PAMPHLETS RECEIVED.—The Use of the Obstetric Forceps in abbreviating the Second Stage of Labor. By Edward S. Dunster, M. D. Lansing. 1877.

Communications of the Rhode Island Medical Society for the Years 1876-77. Published by the Society. Central Falls, R. I.

Case of Aneurism of the Hepatic Artery, with Multiple Abscesses of the Liver. By George Ross, M. D., and William Osler, M. D. (Reprinted from the Canada Medical and Surgical Journal, July, 1877.) Montreal. 1877.

The Strumous Element in the Etiology of Joint-Disease, from an Analysis of Eight Hundred and Sixty Cases. By V. P. G. Wrey, M. D. (Reprinted from the New York Medical Journal, July and August, 1877.)

College of Physicians and Surgeons, New York, Medical Department of Columbia College. Seventh Annual Catalogue. 1877.